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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,980	06/06/2002	Harald Grewe	(H)01PH0405USP	5962

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EXAMINER

SQUIRES, BRETT S

ART UNIT PAPER NUMBER

2836

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,980

Applicant(s)

GREWE ET AL.

Examiner

Brett S. Squires

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-23 and 25-42 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 21-23 and 25-42 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/17/05.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The corrections made to the specification by the amendment filed on January 12, 2006 are accepted by the examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites the limitation "the apparatus has separate and electrically independent supply voltage inputs and output in each case," in page 5 lines of the amendment filed January 12, 2006. There is insufficient antecedent basis for "each case" in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 21-23, 25-26, 29-31, and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Buhring (US 6,097,761).

Buhring discloses a system and method for the transmission of power and data having an apparatus ("Separation Units" figures 11-12 ref# 17) for modules ("Stations" figure 11 ref# 14,15,16) connected to a supply voltage in series in a control and data transmission installation ("Separation Units" figures 11-12 ref# 17, col. 2 lines 38-63, and col. 8 lines 15-33), the apparatus having only one supply voltage input and an associated voltage output ("Separation Units" figures 11-12 ref# 17), a connecting device ("Switch" figures 12-16 ref# 60) for connecting the supply voltage input to the supply voltage output in response to an ascertaining device ("Monitoring Unit" figures 12-16 ref# 61) for ascertaining at least one electrical variable at the supply voltage output (col. 8 lines 15-46), wherein the apparatus is arranged to detect a flowing supply current (col. 13 lines 52-67 and col. 14 lines 1-45).

Regarding Claim 23:

Buhring discloses the ascertaining device is arranged to ascertain at least one electrical variable for detecting at least one of an electrical load and a short circuit ("Monitoring Unit" figures 12-16 ref# 61, col. 13 lines 52-67 and col. 14 lines 1-45).

Regarding Claim 25:

Buhring discloses the connecting device is a semiconductor switch ("Switch" figure 13-16 ref# 60 and col. 8 lines 46-59).

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Regarding Claims 29-30:

Buhring discloses series connection of one station between two separation units so that when a short-circuit arises in the conductor portion between two separation units only the stations present in this conductor portion will be disconnected, whereas the rest of the system remains fully operational (col. 8 lines 15-33). [The examiner would like to point out that the separation unit in front of the station is being read on "the apparatus comprises an associated module," additionally see figure 11 the separation unit 17 has an associated station 18.]

Regarding Claim 31:

Buhring discloses that the apparatus is able to detect short circuits (col. 2 lines 38-63), a ground fault is a type of short circuit, and thus the apparatus would be able to detect a ground fault because it is able to detect short circuits.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 27 is rejected under 35 U.S.C. 103(a) as being obvious over Buhring (US 6,097,761) and Ying (US 6,147,967).

Buhring discloses the above stated system and method for the transmission of data and power having separation units ("Separation Units" figures 11-12 ref# 17) with semiconductor switches ("Switch" figure 13-16 ref# 60 and col. 8 lines 46-59) for connecting and disconnecting the associated stations ("Stations" figure 11 ref# 14, 15, 16) from the bus, but does not disclose the separation units are configurable at least one of manually and via the automation bus system and have at least one memory storage device for configuration storage.

Ying discloses a method and apparatus (figure 6 ref# 603 and 642) for modules (figure 7A-8G ref# 703 and 705) connected to a supply voltage in series (figure 7A-8G ref# 704 and col. 14 lines 22-32) for fault isolation of an automation bus system (col. 1 lines 6-39 and col. 2 lines 36-53) having a voltage supply input (figures 7A-8G), a voltage supply output (figures 7A-8G), a relay for connecting the supply voltage input to the supply voltage output (figure 6 ref# 644a, 644b, figures 7A-8G ref# 712, col. 14 lines 3-9 and 22-32), in response to an ascertaining device ("CPU" figure 3 ref# 315, figure 6 ref# 612, 622, col. 5 lines 34-67, col. 10 lines 9-34, col. 13 lines 60-67, col. 14 lines 1-21) for ascertaining at least one electrical variable for detecting a short circuit, and the apparatus (figure 6 ref# 603 and 642) is configurable manually and through the automation bus system having a central processing unit and a memory (figure 6 ref# 612, 618, col. 3 lines 34-64, col. 10 lines 9-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Buhring to include separation units that have a central processing unit and a memory and are configurable manually and through the

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automation bus system such as that taught by Ying in order to allow sections of the bus system to be shutdown for maintenance purpose in addition to when a fault occurs Ying col. 2 lines 5-20).

8. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being obvious over Buhring (US 6,097,761) and Prendel (EP 0551114 A1). [The citations from Prendel EP 0551114 A1 used in this rejection are from the corresponding English language translation.]

Buhring discloses the above stated system and method for the transmission of data and power having separation units ("Separation Units" figures 11-12 ref# 17) with semiconductor switches ("Switch" figure 13-16 ref# 60 and col. 8 lines 46-59) for connecting and disconnecting the associated stations ("Stations" figure 11 ref# 14,15,16) from the bus, but does not disclose the stations are electrically connected in series to the supply voltage.

Prendel discloses a system for transmitting data and power between a multitude of base stations (figure 1 ref# 1) that are arranged in a series chain (pages 3-4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Buhring to include connecting the stations in a series chain such as that taught by Buhring in order to ensure a fault-free mode of operation (Prendel page 6).

9. Claims 34 and 39-40 are rejected under 35 U.S.C. 103(a) as being obvious over Buhring (US 6,097,761) and Prendel (EP 0551114 A1) and the EN 50254 standard.

The above stated combination of Buhring and Prendel discloses a system and method for the transmission of data and power having separation units ("Separation Units" figures 11-12 ref# 17) with semiconductor switches ("Switch" figure 13-16 ref# 60 and col. 8 lines 46-59) for connecting and disconnecting the associated series connected stations ("Stations" figure 11 ref# 14,15,16) from the bus, but does not disclose the automation bus system complies with the EN 50254 standard.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the above stated combination of Buhring and Prendel to comply with the EN 50254 standard to allow the automation bus system to be sold in Europe.

10. Claims 41-42 are rejected under 35 U.S.C. 103(a) as being obvious over Buhring (US 6,097,761) and Prendel (EP 0551114 A1) and the EN 50254 standard and Ying (US 6,147,967).

The above stated combination of Buhring, Prendel, and the EN 50254 standard discloses a system and method for the transmission of data and power having separation units ("Separation Units" figures 11-12 ref# 17) with semiconductor switches ("Switch" figure 13-16 ref# 60 and col. 8 lines 46-59) for connecting and disconnecting the associated series connected stations ("Stations" figure 11 ref# 14,15,16) from the bus.

The above stated combination of Buhring and Prendel does not disclose:

A. an apparatus connected only partially outputs an error message to indicate a short circuit or an overload at its voltage output, the error message being output to an indicator device or via the automation bus in order to control the automation bus system

B. the error message output via the automation bus comprises at least one data item for identifying the apparatus only partially connected

A,B. Ying discloses a method and apparatus (figure 6 ref# 603 and 642) for modules (figure 7A-8G ref# 703 and 705) connected to a supply voltage in series (figure 7A-8G ref# 704 and col. 14 lines 22-32) for fault isolation of an automation bus system (col. 1 lines 6-39 and col. 2 lines 36-53) having a voltage supply input (figures 7A-8G), a voltage supply output (figures 7A-8G), a relay for connecting the supply voltage input to the supply voltage output (figure 6 ref# 644a, 644b, figures 7A-8G ref# 712, col. 14 lines 3-9 and 22-32), in response to an ascertaining device ("CPU" figure 3 ref# 315, figure 6 ref# 612,622, col. 5 lines 34-67, col. 10 lines 9-34, col. 13 lines 60-67, col. 14 lines 1-21) for ascertaining at least one electrical variable for detecting a short circuit, and operating series-connected apparatuses in a control and data transmission installation starting with a first apparatus ("master node" figures 8A-8G ref# 703), then connecting the subsequent apparatuses ("slave nodes" figure 8A-8G ref# 705) to the automation bus system automatically (col. 14 lines 34-67 and col. 15 lines 1-22).

Ying further discloses that an error message is output to the automation control bus in order to control the bus system when an apparatus indicates a short circuit (col. 11 lines 36-62) and the error message comprises data identifying the apparatus (col. 0 lines 16-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the above stated combination of Buhring, Prendel, and the EN 50254 standard in order to include separation units that have a central processing unit and a memory and output an identifiable error message to indicate a short circuit such as that taught by Ying in order to make it easier for maintenance personnel to identify the location of the short circuit.

Response to Arguments

11. Applicant's arguments with respect to claims 21-23 and 25-42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

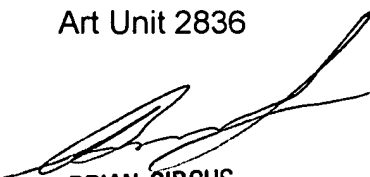
12. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. While reference numbers, figures, and cited locations in the prior art are provided, it is respectfully requested that applicant consider the prior art references in their entirety.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett S. Squires whose telephone number is (571)272-2268. The examiner can normally be reached on 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brett S Squires
Examiner
Art Unit 2836



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